

California Air Resources Board (CARB) Suggested Control Measure for Architectural Coatings

1. APPLICABILITY

- 1.1 Except as provided in subsection 3, this rule is applicable to any person who:
 - 1.1.1 Supplies, sells, markets, or offers for sale any architectural coating for use within the District; or
 - 1.1.2 Manufactures, blends, or repackages any architectural coating for use within the District; or
 - 1.1.3 Applies or solicits the application of any architectural coating within the District.

2. SEVERABILITY

- 2.1 Each provision of this rule shall be deemed severable, and in the event that any provision of this rule is held to be invalid, the remainder of this rule shall continue in full force and effect.

3. EXEMPTIONS

- 3.1 This rule does not apply to:
 - 3.1.1 Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging.
 - 3.1.2 Any aerosol coating product.
- 3.2 With the exception of section 7, this rule does not apply to any architectural coating that is sold in a container with a volume of one liter (1.057 quart) or less provided the following requirements are met:
 - 3.2.1 The coating container is not bundled together with other containers of the same specific coating category (listed in Table 1) to be sold as a unit that exceeds one liter (1.057 quart), excluding containers packed together for shipping to a retail outlet, and
 - 3.2.2 The label or any other product literature does not suggest combining multiple containers of the same specific category (listed in Table 1) so that the combination exceeds one liter (1.057 quart).
- 3.3 Colorant added at the factory or at the worksite is not subject to the VOC limit in Table 2. In addition, containers of colorant sold at the point of sale for use in the field or on a job site are also not subject to the VOC limit in Table 2.

4. DEFINITIONS

- 4.1 Adhesive: Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
- 4.2 Aerosol Coating Product: A pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable container for hand-held application, or for use in specialized equipment for ground traffic/marketing applications.
- 4.3 Aluminum Roof Coating: A coating labeled and formulated exclusively for application to roofs and containing at least 84 grams of elemental aluminum pigment per liter of coating (at least 0.7 pounds per gallon). Pigment content shall be determined in accordance with SCAQMD Method 318-95, incorporated by reference in subsection 8.5.4.
- 4.4 Appurtenance: Any accessory to a stationary structure coated at the site of installation, whether installed or detached, including, but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lampposts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.
- 4.5 Architectural Coating: A coating to be applied to stationary structures or their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purposes of this rule.
- 4.6 Basement Specialty Coating: A clear or opaque coating that is labeled and formulated for application to concrete and masonry surfaces to provide a hydrostatic seal for basements and other below-grade surfaces. Basement Specialty Coatings must meet the following criteria:
- 4.6.1 Coating must be capable of withstanding at least 10 psi of hydrostatic pressure, as determined in accordance with ASTM D7088-17, which is incorporated by reference in subsection 8.5.12; and
- 4.6.2 Coating must be resistant to mold and mildew growth and must achieve a microbial growth rating of 8 or more, as determined in accordance with ASTM D3273-16 and ASTM D3274-09 (2017), incorporated by reference in subsection 8.5.19.
- 4.7 Bitumens: Black or brown materials, including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly

of hydrocarbons, and are obtained from natural deposits or as residues from the distillation of crude petroleum or coal.

- 4.8 Bituminous Roof Coating: A coating which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 4.9 Bituminous Roof Primer: A primer which incorporates bitumens that is labeled and formulated exclusively for roofing and intended for the purpose of preparing a weathered or aged surface or improving the adhesion of subsequent surfacing components.
- 4.10 Bond Breaker: A coating labeled and formulated for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- 4.11 Building Envelope: The ensemble of exterior and demising partitions of a building that enclose conditioned space.
- 4.12 Building Envelope Coating: The fluid applied coating applied to the building envelope to provide a continuous barrier to air or vapor leakage through the building envelope that separates conditioned from unconditioned spaces. Building Envelope Coatings are applied to diverse materials including, but not limited to, concrete masonry units (CMU), oriented strand board (OSB), gypsum board, and wood substrates and must meet the following performance criteria:
- 4.12.1 Air Barriers formulated to have an air permeance not exceeding 0.004 cubic feet per minute per square foot under a pressure differential of 1.57 pounds per square foot (0.004 cfm/ft² @ 1.57 psf), [0.02 liters per square meter per second under a pressure differential of 75 Pa (0.02 L/(s m²) @ 75 Pa)] when tested in accordance with ASTM E2178-13, incorporated by reference in subsection 8.5.23; and/or
- 4.12.2 Water Resistive Barriers formulated to resist liquid water that has penetrated a cladding system from further intruding into the exterior wall assembly and is classified as follows:
- 4.12.2.1 Passes water resistance testing accordance to ASTM E331-00 (2016), incorporated by reference in subsection 8.5.24 and
- 4.12.2.2 Water vapor permeance is classified in accordance with ASTM E96/96M-16, incorporated by reference in subsection 8.5.25.
- 4.13 Coating: A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.

- 4.14 Colorant: A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating after packaging in sale units to produce the desired color.
- 4.15 Concrete Curing Compound: A coating labeled and formulated for application to freshly poured concrete to perform one or more of the following functions:
- 4.15.1 Retard the evaporation of water; or
 - 4.15.2 Harden or dustproof the surface of freshly poured concrete.
- 4.16 Concrete/Masonry Sealer: A clear or opaque coating that is labeled and formulated primarily for application to concrete and masonry surfaces to perform one or more of the following functions:
- 4.16.1 Prevent penetration of water; or
 - 4.16.2 Provide resistance against abrasion, alkalis, acids, mildew, staining, or ultraviolet light; or
 - 4.16.3 Harden or dustproof the surface of aged or cured concrete.
- 4.17 Driveway Sealer: A coating labeled and formulated for application to worn asphalt driveway surfaces to perform one or more of the following functions:
- 4.17.1 Fill cracks; or
 - 4.17.2 Seal the surface to provide protection; or
 - 4.17.3 Restore or preserve the appearance.
- 4.18 Dry Fog Coating: A coating labeled and formulated only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.
- 4.19 Exempt Compound: A compound identified as exempt under the definition of Volatile Organic Compound (VOC), subsection 4.64. Exempt compounds content of a coating shall be determined by U.S. EPA Method 24 or South Coast Air Quality Management District (SCAQMD) Method 303-91 (Revised 1996), incorporated by reference in subsection 8.5.8.
- 4.20 Faux Finishing Coating: A coating labeled and formulated to meet one or more of the following criteria:
- 4.20.1 A glaze or textured coating used to create artistic effects, including, but not limited to: dirt, suede, old age, smoke damage, and simulated marble and wood grain; or
 - 4.20.2 A decorative coating used to create a metallic, iridescent, or pearlescent appearance that contains at least 48 grams of pearlescent mica pigment or other iridescent pigment per liter of coating as applied (at least 0.4 pounds per gallon); or

- 4.20.3 A decorative coating used to create a metallic appearance that contains less than 48 grams of elemental metallic pigment per liter of coating as applied (less than 0.4 pounds per gallon), when tested in accordance with SCAQMD Method 318-95, incorporated by reference in subsection 8.5.4; or
- 4.20.4 A decorative coating used to create a metallic appearance that contains greater than 48 grams of elemental metallic pigment per liter of coating as applied (greater than 0.4 pounds per gallon) and which requires a clear topcoat to prevent the degradation of the finish under normal use conditions. The metallic pigment content shall be determined in accordance with SCAQMD Method 318-95, incorporated by reference in subsection 8.5.4; or
- 4.20.5 A clear topcoat to seal and protect a Faux Finishing coating that meets the requirements of subsection 4.20.1, 4.20.2, 4.20.3, or 4.20.4. These clear topcoats must be sold and used solely as part of a Faux Finishing coating system, and must be labeled in accordance with subsection 6.1.4.
- 4.21 Fire-Resistive Coating: A coating labeled and formulated to protect structural integrity by increasing the fire endurance of interior or exterior steel and other structural materials. The Fire Resistive category includes sprayed fire resistive materials and intumescent fire resistive coatings that are used to bring structural materials into compliance with federal, state, and local building code requirements. Fire Resistive coatings shall be tested in accordance with ASTM Designation E119-18ce1, incorporated by reference in subsection 8.5.2. Fire Resistive coatings and testing agencies must be approved by building code officials.
- 4.22 Fire-Retardant Coating: A coating labeled and formulated to retard ignition and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The fire-retardant coating shall be tested in accordance with ASTM Designation E84-18b, incorporated by reference in subsection 8.5.1.
- Effective January 1, 2010, the Fire Retardant coating category is eliminated and coatings with fire retardant properties will be subject to the VOC limit of their primary category (e.g., Flat, Nonflat, etc.).
- 4.23 Flat Coating: A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Designation D523-14 (2018), incorporated by reference in subsection 8.5.3.

- 4.24 Floor Coating: An opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, garage floors, and other horizontal surfaces which may be subject to foot traffic.
- 4.25 Form-Release Compound: A coating labeled and formulated for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.
- 4.26 Graphic Arts Coating or Sign Paint: A coating labeled and formulated for hand-application by artists using brush, airbrush, or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 4.27 High-Temperature Coating: A high performance coating labeled and formulated for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 4.28 Industrial Maintenance Coating: A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats formulated for application to substrates, including floors, exposed to one or more of the following extreme environmental conditions listed in subsections 4.28.1 through 4.28.5, and labeled as specified in subsection 6.1.5:
- 4.28.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation; or
 - 4.28.2 Acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions; or
 - 4.28.3 Frequent exposure to temperatures above 121°C (250°F); or
 - 4.28.4 Frequent heavy abrasion, including mechanical wear and frequent scrubbing with industrial solvents, cleansers, or scouring agents; or
 - 4.28.5 Exterior exposure of metal structures and structural components.
- 4.29 Interior Stain: A stain labeled and formulated exclusively for use on interior surfaces.
- 4.30 Intumescent: A material that swells as a result of heat exposure, thus increasing in volume and decreasing in density.
- 4.31 Low Solids Coating: A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material as recommended for application by the manufacturer. The VOC content for

Low Solids Coatings shall be calculated in accordance with subsection 4.65.

- 4.32 **Magnesite Cement Coating:** A coating labeled and formulated for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
- 4.33 **Manufacturer's Maximum Thinning Recommendation:** The maximum recommendation for thinning that is indicated on the label or lid of the coating container.
- 4.34 **Market:** To facilitate sales through third party vendors including, but not limited to, catalog or ecommerce sales that bring together buyers and sellers. For the purposes of this rule, market does not mean to generally promote or advertise coatings.
- 4.35 **Mastic Texture Coating:** A coating labeled and formulated to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (at least 0.010 inch) dry film thickness.
- 4.36 **Medium Density Fiberboard (MDF):** A composite wood product, panel, molding, or other building material composed of cellulosic fibers (usually wood) made by dry forming and pressing of a resinated fiber mat.
- 4.37 **Metallic Pigmented Coating:** A coating that is labeled and formulated to provide a metallic appearance. Metallic Pigmented coatings must contain at least 48 grams of elemental metallic pigment (excluding zinc) per liter of coating as applied (at least 0.4 pounds per gallon), when tested in accordance with SCAQMD Method 318-95, incorporated by reference in subsection 8.5.4. The Metallic Pigmented Coating category does not include coatings applied to roofs or Zinc-Rich Primers.
- 4.38 **Multi-Color Coating:** A coating that is packaged in a single container and that is labeled and formulated to exhibit more than one color when applied in a single coat.
- 4.39 **Nonflat Coating:** A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter according to ASTM Designation D523-14 (2018), incorporated by reference in subsection 8.5.3.
- 4.40 **Particleboard:** A composite wood product panel, molding, or other building material composed of cellulosic material (usually wood) in the form of discrete particles, as distinguished from fibers, flakes, or strands, which are pressed together with resin.

- 4.41 Pearlescent: Exhibiting various colors depending on the angles of illumination and viewing, as observed in mother-of-pearl.
- 4.42 Plywood: A panel product consisting of layers of wood veneers or composite core pressed together with resin. Plywood includes panel products made by either hot or cold pressing (with resin) veneers to a platform.
- 4.43 Post-Consumer Coating: Finished coatings generated by a business or consumer that have served their intended end uses, and are recovered from or otherwise diverted from the waste stream for the purpose of recycling.
- 4.44 Pre-Treatment Wash Primer: A primer that contains a minimum of 0.5 percent acid, by weight, when tested in accordance with ASTM Designation D1613-17, incorporated by reference in subsection 8.5.5, that is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.
- 4.45 Primer, Sealer, and Undercoater: A coating labeled and formulated for one or more of the following purposes:
- 4.45.1 To provide a firm bond between the substrate and the subsequent coatings; or
 - 4.45.2 To prevent subsequent coatings from being absorbed by the substrate; or
 - 4.45.3 To prevent harm to subsequent coatings by materials in the substrate; or
 - 4.45.4 To provide a smooth surface for the subsequent application of coatings; or
 - 4.45.5 To provide a clear finish coat to seal the substrate; or
 - 4.45.6 To block materials from penetrating into or leaching out of a substrate.
- 4.46 Reactive Penetrating Sealer: A clear or pigmented coating that is labeled and formulated for application to above-grade concrete and masonry substrates to provide protection from water and waterborne contaminants, including, but not limited to, alkalis, acids, and salts. Reactive Penetrating Sealers must penetrate into concrete and masonry substrates and chemically react to form covalent bonds with naturally occurring minerals in the substrate. Reactive Penetrating Sealers line the pores of concrete and masonry substrates with a hydrophobic coating, but do not form a surface film. Reactive Penetrating Sealers must meet all of the following criteria:

- 4.46.1 The Reactive Penetrating Sealer must improve water repellency at least 80 percent after application on a concrete or masonry substrate. This performance must be verified on standardized test specimens, in accordance with one or more of the following standards, incorporated by reference in subsection 8.5.19: ASTM C67/C67M-18, or ASTM C97/97M-18, or ASTM C140/C140M-18a; and
- 4.46.2 The Reactive Penetrating Sealer must provide a breathable waterproof barrier for concrete or masonry surfaces that does not prevent or substantially retard water vapor transmission. This performance must be verified on standardized test specimens, in accordance with ASTM E96/96M-16 or ASTM D6490-99 (2014), incorporated by reference in subsection 8.5.20; and
- 4.46.3 Products labeled and formulated for vehicular traffic surface chloride screening applications must meet the performance criteria listed in the National Cooperative Highway Research Report 244 (1981), incorporated by reference in subsection 8.5.21.

Reactive Penetrating Sealers must be labeled in accordance with subsection 6.1.8.

- 4.47 Recycled Coating: An architectural coating formulated such that it contains a minimum of 50% by volume post-consumer coating, with a maximum of 50% by volume secondary industrial materials or virgin materials.
- 4.48 Residential: Areas where people reside or lodge, including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.
- 4.49 Roof Coating: A non-bituminous coating labeled and formulated for application to roofs for the primary purpose of preventing water penetration, reflecting ultraviolet light, or reflecting solar radiation.
- 4.50 Rust Preventative Coating: A coating formulated to prevent the corrosion of metal surfaces for one or more of the following applications:
 - 4.50.1 Direct-to-metal coating; or
 - 4.50.2 Coating intended for application over rusty, previously coated surfaces.

The Rust Preventative category does not include the following:

- 4.50.3 Coatings that are required to be applied as a topcoat over a primer; or
- 4.50.4 Coatings that are intended for use on wood or any other non-metallic surface.

Rust Preventative coatings are for metal substrates only and must be labeled as such, in accordance with the labeling requirements in subsection 6.1.6.

- 4.51 Secondary Industrial Materials: Products or by-products of the paint manufacturing process that are of known composition and have economic value but can no longer be used for their intended purpose.
- 4.52 Semitransparent Coating: A coating that contains binders and colored pigments and is formulated to change the color of the surface, but not conceal the grain pattern or texture.
- 4.53 Shellac: A clear or opaque coating formulated solely with the resinous secretions of the lac beetle (*Lacifer lacca*), and formulated to dry by evaporation without a chemical reaction.
- 4.54 Shop Application: Application of a coating to a product or a component of a product in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 4.55 Solicit: To require for use or to specify, by written or oral contract.
- 4.56 Specialty Primer, Sealer, and Undercoater: A coating that is formulated for application to a substrate to block water-soluble stains resulting from: fire damage; smoke damage; or water damage.

Specialty Primers, Sealers, and Undercoaters must be labeled in accordance with subsection 6.1.7.

- 4.57 Stain: A semitransparent or opaque coating labeled and formulated to change the color of a surface but not conceal the grain pattern or texture.
- 4.58 Stone Consolidant: A coating that is labeled and formulated for application to stone substrates to repair historical structures that have been damaged by weathering or other decay mechanisms. Stone Consolidants must penetrate into stone substrates to create bonds between particles and consolidate deteriorated material. Stone Consolidants must be specified and used in accordance with ASTM E2167-01 (2008), incorporated by reference in subsection 8.5.22.

Stone Consolidants are for professional use only and must be labeled as such, in accordance with the labeling requirements in subsection 6.1.9.

- 4.59 Swimming Pool Coating: A coating labeled and formulated to coat the interior of swimming pools and to resist swimming pool chemicals. Swimming pool coatings include coatings used for swimming pool repair and maintenance.

- 4.60 Tile and Stone Sealers: A clear or pigmented sealer that is used for sealing tile, stone or grout to provide resistance against water, alkalis, acids, ultraviolet light or straining and which meet one of the following subcategories:
- 4.60.1 Penetrating sealers are polymer solutions that cross-link in the substrate and must meet the following criteria:
- 4.60.1.1 A fine particle structure to penetrate dense tile such as porcelain with absorption as low as 0.10 percent per ASTM C373-18, ASTM C97/97M-18, or ASTM C642-13, incorporated by reference in subsection 8.5.26,
 - 4.60.1.2 Retain or increase static coefficient of friction per ANSI A137.1 (2012), incorporated by reference in subsection 8.5.27,
 - 4.60.1.3 Not create a topical surface film on the tile or stone, and
 - 4.60.1.4 Allow vapor transmission per ASTM E96/96M-16, incorporated by subsection 8.5.28.
- 4.60.2 Film forming sealers which leave a protective film on the surface.
- 4.61 Tint Base: An architectural coating to which colorant is added after packaging in sale units to produce a desired color.
- 4.62 Traffic Marking Coating: A coating labeled and formulated for marking and striping streets, highways, or other traffic surfaces, including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways. This coating category also includes Methacrylate Multicomponent Coatings used as traffic marking coatings. The VOC content of Methacrylate Multicomponent Coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR Part 59, Subpart D, Appendix A, incorporated by reference in subsection 8.5.11.
- 4.63 Tub and Tile Refinish Coating: A clear or opaque coating that is labeled and formulated exclusively for refinishing the surface of a bathtub, shower, sink, or countertop. Tub and Tile Refinish coatings must meet all of the following criteria:
- 4.63.1 The coating must have a scratch hardness of 3H or harder and a gouge hardness of 4H or harder. This must be determined on bonderite 1000, in accordance with ASTM D3363-05 (2011)e2, incorporated by reference in subsection 8.5.14.; and
 - 4.63.2 The coating must have a weight loss of 20 milligrams or less after 1000 cycles. This must be determined with CS-17 wheels on bonderite 1000, in accordance with ASTM D4060-14, incorporated by reference in subsection 8.5.15; and
 - 4.63.3 The coating must withstand 1000 hours or more of exposure with few or no #8 blisters. This must be determined on unscribed bonderite, in accordance with ASTM D4585-99, and

- ASTM D714-02 (2017), incorporated by reference in subsection 8.5.16; and
- 4.63.4 The coating must have an adhesion rating of 4B or better after 24 hours of recovery. This must be determined on unscribed bonderite, in accordance with ASTM D4585-/D4585M-18 and ASTM D3359-17, incorporated by reference in subsection 8.5.13.
- 4.64 Veneer: Thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.
- 4.65 Virgin Materials: Materials that contain no post-consumer coatings or secondary industrial materials.
- 4.66 Volatile Organic Compound (VOC): Any volatile compound containing at least one atom of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and excluding the following:
- 4.66.1 methane;
- methylene chloride (dichloromethane);
 - 1,1,1-trichloroethane (methyl chloroform);
 - trichlorofluoromethane (CFC-11);
 - dichlorodifluoromethane (CFC-12);
 - 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
 - 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
 - chloropentafluoroethane (CFC-115);
 - chlorodifluoromethane (HCFC-22);
 - 1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);
 - 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
 - 1,1-dichloro-1-fluoroethane (HCFC-141b);
 - 1-chloro-1,1-difluoroethane (HCFC-142b);
 - trifluoromethane (HFC-23);
 - pentafluoroethane (HFC-125);
 - 1,1,2,2-tetrafluoroethane (HFC-134);
 - 1,1,1,2-tetrafluoroethane (HFC-134a);
 - 1,1,1-trifluoroethane (HFC-143a);
 - 1,1-difluoroethane (HFC-152a);
 - cyclic, branched, or linear completely methylated siloxanes;
 - the following classes of perfluorocarbons:
 - 4.66.1.1 cyclic, branched, or linear, completely fluorinated alkanes;
 - 4.66.1.2 cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
 - 4.66.1.3 cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
 - 4.66.1.4 sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds only to carbon and fluorine; and

4.66.2 the following low-reactive organic compounds which have been exempted by the U.S. EPA:
 acetone;
 ethane;
 parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene);
 perchloroethylene; and
 methyl acetate.

4.67 VOC Actual: VOC Actual is the weight of VOC per volume of coating or colorant and it is calculated with the following equation:

$$\text{VOC Actual} = \frac{(W_s - W_w - W_{ec})}{(V_m)}$$

Where:

VOC Actual = the grams of VOC per liter of coating or colorant (also known as “Material VOC”)
 W_s = weight of volatiles, in grams
 W_w = weight of water, in grams
 W_{ec} = weight of exempt compounds, in grams
 V_m = volume of coating or colorant, in liters

4.68 VOC Content: The weight of VOC per volume of coating or colorant. VOC Content is VOC Regulatory, as defined in subsection 4.69, for all coatings or colorants except those in the Low Solids category. For coatings or colorants in the Low Solids category, the VOC Content is VOC Actual, as defined in subsection 4.67. If the coating is a multi-component product, the VOC content is VOC Regulatory as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing.

4.69 VOC Regulatory: VOC Regulatory is the weight of VOC per volume of coating or colorant, less the volume of water and exempt compounds. It is calculated with the following equation:

$$\text{VOC Regulatory} = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})}$$

Where:

VOC Regulatory = grams of VOC per liter of coating or colorant, less water and exempt compounds (also known as “Coating VOC”)
 W_s = weight of volatiles, in grams
 W_w = weight of water, in grams
 W_{ec} = weight of exempt compounds, in grams

V_m	=	volume of coating or colorant, in liters
V_w	=	volume of water, in liters
V_{ec}	=	volume of exempt compounds, in liters

4.70 **Waterproofing Membrane:** A clear or opaque coating that is labeled and formulated for application to concrete and masonry surfaces to provide a seamless waterproofing membrane that prevents any penetration of liquid water into the substrate. Waterproofing Membranes are intended for the following waterproofing applications: below-grade surfaces, between concrete slabs, inside tunnels, inside concrete planters, and under flooring materials. Waterproofing Membranes must meet the following criteria:

- 4.70.1 Coating must be applied in a single coat of at least 25 mils (at least 0.025 inch) dry film thickness; and
- 4.70.2 Coatings must meet or exceed the requirements contained in ASTM C836/C836M-18, incorporated by reference in subsection 8.5.17.

The Waterproofing Membrane category does not include topcoats that are included in the Concrete/Masonry Sealer category (e.g., parking deck topcoats, pedestrian deck topcoats, etc.).

4.71 **Wood Coatings:** Coatings labeled and formulated for application to wood substrates only. The Wood Coatings category includes the following clear and semitransparent coatings: lacquers; varnishes; sanding sealers; penetrating oils; clear stains; wood conditioners used as undercoats; and wood sealers used as topcoats. The Wood Coatings category also includes the following opaque wood coatings: opaque lacquers; opaque sanding sealers; and opaque lacquer undercoaters. The Wood Coatings category does not include the following: clear sealers that are labeled and formulated for use on concrete/masonry surfaces; or coatings intended for substrates other than wood.

Wood Coatings must be labeled “For Wood Substrates Only”, in accordance with subsection 6.1.10.

4.72 **Wood Preservative:** A coating labeled and formulated to protect exposed wood from decay or insect attack, that is registered with both the U.S. EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, *et seq.*) and with the California Department of Pesticide Regulation.

4.73 **Wood Substrate:** A substrate made of wood, particleboard, plywood, medium density fiberboard, rattan, wicker, bamboo, or composite products with exposed wood grain. Wood Products do not include items comprised of simulated wood.

- 4.74 Zinc-Rich Primer: A coating that meets all of the following specifications:
- 4.74.1 Coating contains at least 65 percent metallic zinc powder or zinc dust by weight of total solids; and
 - 4.74.2 Coating is formulated for application to metal substrates to provide a firm bond between the substrate and subsequent applications of coatings; and
 - 4.74.3 Coating is intended for professional use only and is labeled as such, in accordance with the labeling requirements in subsection 6.1.11.

5. STANDARDS

- 5.1 **VOC Content Limits:** Except as provided in subsections 5.2 or 5.3, no person shall:
- 5.1.1 manufacture, blend, or repackage for use within the district; or
 - 5.1.2 supply, sell, market, or offer for sale for use within the district; or
 - 5.1.3 solicit for application or apply within the district, any architectural coating with a VOC content in excess of the corresponding limit specified in Table 1, after the specified effective date in Table 1. Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.
- 5.2 **Most Restrictive VOC Limit:** If a coating meets the definition in Section 4 for one or more specialty coating categories that are listed in Table 1, then that coating is not required to meet the VOC limits for Flat or Nonflat, but is required to meet the VOC limit for the applicable specialty coating listed in Table 1.
- With the exception of the specialty coating categories specified in subsections 5.2.1 through 5.2.12, if a coating is recommended for use in more than one of the specialty coating categories listed in Table 1, the most restrictive (or lowest) VOC content limit shall apply. This requirement applies to: usage recommendations that appear anywhere on the coating container, anywhere on any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf.
- 5.2.1 Metallic pigmented coatings.
 - 5.2.2 Shellacs.
 - 5.2.3 Pretreatment wash primers.
 - 5.2.4 Industrial maintenance coatings.
 - 5.2.5 Low-solids coatings.
 - 5.2.6 Wood preservatives.
 - 5.2.7 High temperature coatings.

- 5.2.8 Bituminous roof primers.
- 5.2.9 Specialty primers, sealers, and undercoaters.
- 5.2.10 Aluminum roof coatings.
- 5.2.11 Zinc-rich primers.
- 5.2.12 Wood Coatings.

- 5.3 **Sell-Through Provisions:** Coatings or colorants manufactured prior to the applicable effective date specified in Table 1 or Table 2 must meet the following:
- 5.3.1 A coating manufactured prior to the effective date specified for that coating in Table 1 may be sold, supplied, or offered for sale for up to three years after the specified effective date. In addition, a coating manufactured before the effective date specified for that coating in Table 1 may be applied at any time, both before and after the specified effective date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This subsection 5.3.1 does not apply to any coating that does not display the date or date-code required by subsection 6.1.1.
 - 5.3.2 A colorant manufactured prior to the effective date specified for that colorant in Table 2 may be sold, supplied, or offered for sale for up to three years after the specified effective date. In addition, a colorant manufactured before the effective date specified for that colorant in Table 2 may be applied at any time, both before and after the specified effective date, so long as the colorant complied with the standards in effect at the time the colorant was manufactured. This subsection 5.3.2 does not apply to any colorant that does not display the date or date-code required by subsection 6.2.1.
- 5.4 **Painting Practices:** All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.
- 5.5 **Thinning:** No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in Table 1.
- 5.6 **Coatings Not Listed in Table 1:** For any coating that does not meet any of the definitions for the specialty coating categories listed in Table 1, the VOC content limit shall be determined by classifying the coating as a Flat or Nonflat coating, based on its gloss, as defined in subsections 4.23 and

4.39 and the corresponding Flat or Nonflat VOC limit in Table 1 shall apply.

- 5.7 **Colorants:** No person within the District shall, at the point of sale of any architectural coating subject to subsection 5.1, add to such coating any colorant that contains VOC in excess of the corresponding applicable VOC limit specified in Table 2. The point of sale includes retail outlets that add colorant to a coating container to obtain a specific color.

6. CONTAINER LABELING REQUIREMENTS

- 6.1 Each manufacturer of any architectural coating subject to this rule shall display the information listed in subsections 6.1.1 through 6.1.11 on the coating container (or label) in which the coating is sold or distributed.

6.1.1 **Date Code:** The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer.

6.1.2 **Thinning Recommendations:** A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.

6.1.3 **VOC Content:** Each container of any coating subject to this rule shall display one of the following values in grams of VOC per liter of coating:

6.1.3.1 Maximum VOC Content as determined from all potential product formulations; or

6.1.3.2 VOC Content as determined from actual formulation data; or

6.1.3.3 VOC Content as determined using the test methods in subsection 8.2.

If the manufacturer does not recommend thinning, the container must display the VOC Content, as supplied. If the manufacturer recommends thinning, the container must display the VOC Content, including the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multi-component product, the container must display the VOC content as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the

VOC content must include the VOCs emitted during curing. VOC Content shall be determined as defined in subsections 4.67, 4.68, and 4.69.

- 6.1.4 **Faux Finishing Coatings:** The labels of all Faux Finishing coatings shall prominently display the statement “This product can only be sold or used as part of a Faux Finishing coating system”.
- 6.1.5 **Industrial Maintenance Coatings:** The labels of all Industrial Maintenance coatings shall prominently display the statement “For industrial use only” or “For professional use only”.
- 6.1.6 **Rust Preventative Coatings:** The labels of all rust preventative coatings shall prominently display the statement “For Metal Substrates Only.”
- 6.1.7 **Specialty Primers, Sealers, and Undercoaters:** The labels of all specialty primers, sealers, and undercoaters shall prominently display the statement “Specialty Primer, Sealer, Undercoater.”
- 6.1.8 **Reactive Penetrating Sealers:** The labels of all Reactive Penetrating Sealers shall prominently display the statement “Reactive Penetrating Sealer”.
- 6.1.9 **Stone Consolidants:** The labels of all Stone Consolidants shall prominently display the statement “Stone Consolidant - For Professional Use Only”.
- 6.1.10 **Wood Coatings:** The labels of all Wood Coatings shall prominently display the statement “For Wood Substrates Only”.
- 6.1.11 **Zinc Rich Primers:** The labels of all Zinc Rich Primers shall prominently display the statement “For Professional Use Only”.
- 6.2 Effective January 1, 2022, each manufacturer of any colorant subject to this rule shall display the information listed in subsections 6.2.1 and 6.2.2 on the container (or label) in which the colorant is sold or distributed.
 - 6.2.1 **Date Code:** The date the colorant was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any colorant, the manufacturer shall file an explanation of each code with the Executive Officer.
 - 6.2.2 **VOC Content:** Each container of any colorant subject to this rule shall display one of the following values in grams of VOC per liter of colorant:

- 6.2.2.1 Maximum VOC Content as determined from all potential product formulations; or
- 6.2.2.2 VOC Content as determined from actual formulation data; or
- 6.2.2.3 VOC Content as determined using the test methods in subsection 8.2.

If the colorant contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing. VOC Content shall be determined as defined in subsections 4.67, 4.68, and 4.69.

7. REPORTING REQUIREMENTS

- 7.1 **Sales Data:** A responsible official from each manufacturer shall upon request of the Executive Officer of the ARB, or his or her delegate, provide data concerning the distribution and sales of architectural coatings. The responsible official shall within 180 days provide information, including, but not limited to:
- 7.1.1 the name and mailing address of the manufacturer;
 - 7.1.2 the name, address and telephone number of a contact person;
 - 7.1.3 the name of the coating product as it appears on the label and the applicable coating category;
 - 7.1.4 whether the product is marketed for interior or exterior use or both;
 - 7.1.5 the number of gallons sold in California in containers greater than one liter (1.057 quart) and equal to or less than one liter (1.057 quart);
 - 7.1.6 the VOC Actual content and VOC Regulatory content in grams per liter. If thinning is recommended, list the VOC Actual content and VOC Regulatory content after maximum recommended thinning. If containers less than one liter have a different VOC content than containers greater than one liter, list separately. If the coating is a multi-component product, provide the VOC content as mixed or catalyzed;
 - 7.1.7 the names and CAS numbers of the VOC constituents in the product;
 - 7.1.8 the names and CAS numbers of any compounds in the product specifically exempted from the VOC definition, as listed in subsection 4.66.1 or 4.66.2;
 - 7.1.9 whether the product is marketed as solventborne, waterborne, or 100% solids;
 - 7.1.10 description of resin or binder in the product;
 - 7.1.11 whether the coating is a single-component or multi-component product;
 - 7.1.12 the density of the product in pounds per gallon;

- 7.1.13 the percent by weight of: solids, all volatile materials, water, and any compounds in the product specifically exempted from the VOC definition, as listed in subsection 4.66.1 or 4.66.2; and
 - 7.1.14 the percent by volume of: solids, water, and any compounds in the product specifically exempted from the VOC definition, as listed in subsection 4.66.1 or 4.66.2.
- 7.2 All sales data listed in subsections 7.1.1 to 7.1.14 shall be maintained by the responsible official for a minimum of three years. Sales data submitted by the responsible official to the Executive Officer of the ARB may be claimed as confidential, and such information shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations Sections 91000-91022.

8. COMPLIANCE PROVISIONS AND TEST METHODS

- 8.1 **Calculation of VOC Content:** For the purpose of determining compliance with the VOC content limits in Table 1 or Table 2, the VOC content of a coating or colorant shall be determined as defined in subsection 4.67, 4.68, or 4.69. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured. If the manufacturer does not recommend thinning, the VOC Content must be calculated for the product as supplied. If the manufacturer recommends thinning, the VOC Content must be calculated including the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multi-component product, the VOC content must be calculated as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing.
- 8.2 **VOC Content of Coatings:** The VOC content of coatings or colorants shall be determined by the following:
- 8.2.1 To determine the physical properties of a coating or colorant in order to perform the calculations in subsection 4.67 or 4.69, the reference method for VOC content is U.S. EPA Method 24, incorporated by reference in subsection 8.5.9, except as provided in subsections 8.3 and 8.4.
 - 8.2.2 An alternative method to determine the VOC content of coatings or colorants is SCAQMD Method 304-91 (Revised 1996), incorporated by reference in subsection 8.5.10.
 - 8.2.3 The exempt compounds content shall be determined by SCAQMD Method 303-91 (Revised 1996), BAAQMD Method 43 (Revised 2005), or BAAQMD Method 41 (Revised 2005), as

applicable, incorporated by reference in subsections 8.5.8, 8.5.6, and 8.5.7, respectively.

- 8.2.4 To determine the VOC content of a coating or colorant, the manufacturer may use U.S. EPA Method 24, or an alternative method as provided in subsection 8.3, formulation data, or any other reasonable means for predicting that the coating or colorant has been formulated as intended (e.g., quality assurance checks, record keeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved as specified in subsection 8.3.
- 8.2.5 To determine the VOC content of a coating or colorant with a VOC content of 150 g/l or less, the manufacturer may use SCAQMD Method 313, incorporated by reference in subsection 8.5.29, ASTM D6886-18, incorporated by reference in subsection 8.5.30, or any other reasonable means for predicting that the coating or colorant has been formulated as intended (e.g., quality assurance checks, record keeping).
- 8.2.6 The District Air Pollution Control Officer (APCO) may require the manufacturer to conduct a Method 24 analysis.
- 8.3 **Alternative Test Methods:** Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with subsection 8.2, after review and approved in writing by the staffs of the District, the ARB, and the U.S. EPA, may also be used.
- 8.4 **Methacrylate Traffic Marking Coatings:** Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of U.S. EPA Method 24 (40 CFR 59, subpart D, Appendix A), incorporated by reference in subsection 8.5.11. This method has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.
- 8.5 **Test Methods:** The following test methods are incorporated by reference herein, and shall be used to test coatings subject to the provisions of this rule:
- 8.5.1 **Flame Spread Index:** The flame spread index of a fire-retardant coating shall be determined by ASTM E84-18b, "Standard Test Method for Surface Burning Characteristics of Building Materials" (see section 4, Fire-Retardant Coating).

- 8.5.2 **Fire Resistance Rating:** The fire resistance rating of a fire-resistive coating shall be determined by ASTM E119-18ce1, “Standard Test Methods for Fire Tests of Building Construction and Materials” (see section 4, Fire-Resistive Coating).
- 8.5.3 **Gloss Determination:** The gloss of a coating shall be determined by ASTM D523-14 (2018), “Standard Test Method for Specular Gloss” (see section 4, Flat Coating and Nonflat Coating).
- 8.5.4 **Metal Content of Coatings:** The metallic content of a coating shall be determined by SCAQMD Method 318-95, “Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction,” *SCAQMD Laboratory Methods of Analysis for Enforcement Samples* (see section 4, Aluminum Roof, Faux Finishing, and Metallic Pigmented Coating).
- 8.5.5 **Acid Content of Coatings:** The acid content of a coating shall be determined by ASTM D-1613-17, “Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products” (see section 4, Pre-treatment Wash Primer).
- 8.5.6 **Exempt Compounds--Siloxanes:** Exempt compounds that are cyclic, branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with section 8 by BAAQMD Method 43, “Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials,” *BAAQMD Manual of Procedures*, Volume III, adopted 11/6/96 (see section 4, Volatile Organic Compound, and subsection 8.2).
- 8.5.7 **Exempt Compounds--Parachlorobenzotrifluoride (PCBTF):** The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with section 8 by BAAQMD Method 41, “Determination of Volatile Organic Compounds in Solvent Based Coatings and Related Materials Containing Parachlorobenzotrifluoride,” *BAAQMD Manual of Procedures*, Volume III, adopted 12/20/95 (see section 4, Volatile Organic Compound, and subsection 8.2).
- 8.5.8 **Exempt Compounds:** The content of compounds exempt under U.S. EPA Method 24 shall be analyzed by SCAQMD Method 303-91 (Revised 1996), “Determination of Exempt Compounds,” *SCAQMD Laboratory Methods of Analysis for Enforcement Samples* (see section 4, Volatile Organic Compound, and subsection 8.2).

- 8.5.9 **VOC Content of Coatings:** The VOC content of a coating shall be determined by U.S. EPA Method 24 as it exists in appendix A of 40 *Code of Federal Regulations* (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings" (see subsection 8.2).
- 8.5.10 **Alternative VOC Content of Coatings:** The VOC content of coatings may be analyzed either by U.S. EPA Method 24 or SCAQMD Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," *SCAQMD Laboratory Methods of Analysis for Enforcement Samples* (see subsection 8.2).
- 8.5.11 **Methacrylate Traffic Marking Coatings:** The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings" (see subsection 8.4).
- 8.5.12 **Hydrostatic Pressure for Basement Specialty Coatings:** ASTM D7088-17, "Standard Practice for Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry" (see section 4, Basement Specialty Coating).
- 8.5.13 **Tube and Tile Refinish Coating Adhesion:** ASTM D4585/4585M-18, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D3359-17, "Standard Test Methods for Measuring Adhesion by Tape Test" (see section 4, Tube and Tile Refinish Coating).
- 8.5.14 **Tube and Tile Refinish Coating Hardness:** ASTM D3363-05 (2011)e2, "Standard Test Method for Film Hardness by Pencil Test" (see section 4, Tube and Tile Refinish Coating).
- 8.5.15 **Tube and Tile Refinish Coating Abrasion Resistance:** ASTM D4060-14, "Standard Test Methods for Abrasion Resistance of Organic Coatings by the Taber Abraser" (see section 4, Tube and Tile Refinish Coating).
- 8.5.16 **Tube and Tile Refinish Coating Water Resistance:** ASTM D4585/4585M-18, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D714-02 (2017), "Standard Test Method for Evaluating Degree of Blistering of Paints" (see section 4, Tube and Tile Refinish Coating).

- 8.5.17 **Waterproofing Membrane:** ASTM C836/836M-18, “Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course” (see section 4, Waterproofing Membrane).
- 8.5.18 **Mold and Mildew Growth for Basement Specialty Coatings:** ASTM D3273-16, “Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber” and ASTM D3274-09 (2017), “Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Fungal or Algal Growth or Soil and Dirt Accumulation” (see section 4, Basement Specialty Coating).
- 8.5.19 **Reactive Penetrating Sealer Water Repellency:** ASTM C67/C67M-18, “Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile”; or ASTM C97/97M-18, “Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone”; or ASTM C140/140M-18a, “Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units” (see section 4, Reactive Penetrating Sealer).
- 8.5.20 **Reactive Penetrating Sealer Water Vapor Transmission:** ASTM E96/E96M-16, “Standard Test Method for Water Vapor Transmission of Materials”; or ASTM D6490-99 (2014), “Standard Test Method for Water Vapor Transmission of Nonfilm Forming Treatments Used on Cementitious Panels” (see section 4, Reactive Penetrating Sealer).
- 8.5.21 **Reactive Penetrating Sealer - Chloride Screening Applications:** National Cooperative Highway Research Report 244 (1981), “Concrete Sealers for the Protection of Bridge Structures” (see section 4, Reactive Penetrating Sealer).
- 8.5.22 **Stone Consolidants:** ASTM E2167-01 (2008), “Standard Guide for Selection and Use of Stone Consolidants” (see section 4, Stone Consolidant).
- 8.5.23 **Building Envelope Coating Air Permeance of Building Materials:** ASTM E2178-13, “Standard Test Method for Air Permeance of Building Materials” (see section 4, Building Envelope Coating).
- 8.5.24 **Building Envelope Coating Water Penetration Testing:** ASTM E331-00 (2016), “Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference” (see section 4, Building Envelope Coating).

- 8.5.25 **Building Envelope Coating Water Vapor Transmission:** ASTM E96/96M-16, “Standard Test Methods for Water Vapor Transmission of Materials” (see section 4, Building Envelope Coating).
- 8.5.26 **Tile and Stone Sealers Absorption:** ASTM C373-18, “Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tile and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products”; or ASTM C97/97M-18, “Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone”; or ASTM C642-13, “Standard Test Method for Density, Absorption, and Voids in Hardened Concrete” (see section 4, Tile and Stone Sealers).
- 8.5.27 **Tile and Stone Sealers – Static Coefficient of Friction:** ANSI A137.1 (2012), “American National Standard of Specifications for Ceramic Tile” (see section 4, Tile and Stone Sealers).
- 8.5.28 **Tile and Stone Sealers Water Vapor Transmissions:** ASTM E96/96M-16, “Standard Test Methods for Water Vapor Transmission of Materials” (see section 4, Tile and Stone Sealers).
- 8.5.29 **VOC Content of Coatings:** South Coast AQMD Method 313, “Determination of Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry/Flame Ionization Detection (GS/MS/FID)” (see section 8.2, VOC Content of Coatings).
- 8.5.30 **VOC Content of Coatings:** ASTM D6886-18, “Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography” (see section 8.2, VOC Content of Coatings).

9. PHOTOVOLTAIC COATINGS

- 9.1 **Exemptions:** There are no exemptions for Photovoltaic Coatings. The requirements of Section 9 are applicable to all Photovoltaic Coatings regardless of container size.
- 9.2 **Definition:** A coating labeled and formulated for application to solar photovoltaic modules. Photovoltaic Coatings are applied as a single layer to solar photovoltaic modules already installed. Photovoltaic Coatings do not include coatings applied to photovoltaic modules in shop applications.
- 9.3 **VOC Content Limits:** Commencing July 1, 2020, no person shall:
- 9.3.1 manufacture, blend, or repackage for use within the district; or

- 9.3.2 supply, sell, market, or offer for sale for use within the district; or
- 9.3.3 solicit for application or apply within the district, any Photovoltaic Coating with a VOC content in excess of 600 g/l. VOC limit expressed as VOC Actual, thinned to the manufacturer's maximum thinning recommendation.
- 9.4 **Volume Limits:** The volume of gallons of Photovoltaic Coatings are limited by the air district where the coatings will be applied. Table 3 includes the volume limits for Photovoltaic Coatings.
- 9.5 **Most Restrictive VOC Limit:** If a coating meets the definition in Section 9.2, then that coating is not required to meet the VOC limits in Table 1.
- 9.6 **Sell-Through Provisions:** Sell-through for Photovoltaic Coatings is prohibited.
- 9.7 **Painting Practices:** Photovoltaic Coatings must meet the painting practices in Section 5.4.
- 9.8 **Thinning:** No person who applies or solicits the application of any Photovoltaic Coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in 9.3.
- 9.9 **Container Labeling Requirements:** Each manufacturer of any Photovoltaic Coating subject to this rule shall display the information listed in subsections 6.1.1 through 6.1.3 on the coating container (or label) in which the coating is sold or distributed. In addition, the label must include "applied as a single layer to solar photovoltaic modules."
- 9.10 **Sunset Date:** Effective January 1, 2028, the Photovoltaic Coatings category sunsets and the coatings are required to meet the applicable limits in Table 1.
- 9.11 **Calculation of VOC Content:** For the purpose of determining compliance with the VOC content limits in Section 9.3, the VOC content of a coating shall be determined as defined in subsection 4.67.
- 9.12 **VOC Content of Coatings:** The VOC content of Photovoltaic Coatings shall be determined as provided in subsection 8.2.
- 9.13 **Compliance Provisions and Test Methods:** The test methods identified in Section 8.5 shall be used to test coatings subject to the provisions of this rule.

9.14 Notification Requirements:

9.14.1 **Notify Air District:** Prior to use of any Photovoltaic Coatings, the Coating Manufacturer shall complete and submit a notification to the local air district. The notification shall include, but not be limited to the following information:

9.14.1.1. Source name, owner name, location, contact and telephone,

9.14.1.2. Agreement with business owner to apply Photovoltaic Coatings,

9.14.1.3. Description of business activity,

9.14.1.4. Identification of the period the Photovoltaic Coatings will be applied, including an estimate of start date, completion date and increments of progress,

9.14.1.5. An estimate of emissions from Photovoltaic Coatings during the period, including the calculations used, and

9.14.1.6. An estimate of materials used in gallons of Photovoltaic Coatings during the period.

9.14.2 **Notify U.S. EPA:** Any manufacturer or importer of a Photovoltaic Coating used in California shall notify U.S. EPA Region IX of any coating use that exceeded the applicable VOC limit identified in 40 CFR Part 59 Subpart D and shall comply with the requirements of 40 CFR Part 59 Subpart D, including, but not limited to, 40 CFR 59.403 exceedance fees, 59.407 recordkeeping requirements, and 59.408 reporting requirements.

9.15 Reporting Requirements:

9.15.1 **Sales Data:** Photovoltaic Coatings are subject to the reporting requirements provided in subsection 7.1 and 7.2.

9.15.2 **Annual Reports:** Anywhere Photovoltaic Coatings are applied to solar photovoltaic modules, the Coating Manufacturer must submit an annual report no later than March 31st to the local air district that includes, at the least:

9.15.2.1. Source name, location, contact and telephone,

9.15.2.2. Ownership status,

9.15.2.3. Description of business activity,

9.15.2.4. Identify the period the coatings were applied, including the start date, completion date and increments of progress,

9.15.2.5. The actual VOC emissions from Photovoltaic Coatings during the reporting period, including the calculations used, and

9.15.2.6. The actual gallons of Photovoltaic Coatings used during the reporting period.

Table 1
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.

Coating Category	Current Limit	Effective 1/1/2022
Flat Coatings	50	
Nonflat Coatings	100	50
Specialty Coatings		
Aluminum Roof Coatings	400	100
Basement Specialty Coatings	400	
Bituminous Roof Coatings	50	
Bituminous Roof Primers	350	
Bond Breakers	350	
Building Envelope Coatings		50
Concrete Curing Compounds	350	
Concrete/Masonry Sealers	100	
Driveway Sealers	50	
Dry Fog Coatings	150	50
Faux Finishing Coatings	350	
Fire Resistive Coatings	350	150
Floor Coatings	100	50
Form-Release Compounds	250	100
Graphic Arts Coatings (Sign Paints)	500	
High Temperature Coatings	420	
Industrial Maintenance Coatings	250	
Low Solids Coatings ^a	120	
Magnesite Cement Coatings	450	
Mastic Texture Coatings	100	
Metallic Pigmented Coatings	500	
Multi-Color Coatings	250	
Pre-Treatment Wash Primers	420	
Primers, Sealers, and Undercoaters	100	
Reactive Penetrating Sealers	350	

Table 1
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.

Coating Category	Current Limit	Effective 1/1/2022
Recycled Coatings	250	
Roof Coatings	50	
Rust Preventative Coatings	250	
Shellacs: • Clear • Opaque	730 550	
Specialty Primers, Sealers, and Undercoaters	100	
Stains: • Exterior/Dual • Interior	250 250	100
Stone Consolidants	450	
Swimming Pool Coatings	340	
Tile and Stone Sealers	100	
Traffic Marking Coatings	100	
Tub and Tile Refinish Coatings	420	
Waterproofing Membranes	250	100
Wood Coatings	275	
Wood Preservatives	350	
Zinc-Rich Primers	340	

a. Limit is expressed as VOC Actual.

Table 2
VOC CONTENT LIMITS FOR COLORANTS

Limits are expressed as VOC Regulatory.

Colorant Added To	Effective 1/1/2022
Architectural Coatings, excluding Industrial Maintenance Coatings	50
Solvent-Based Industrial Maintenance Coatings	600
Waterborne Industrial Maintenance Coatings	50
Wood Coatings	600

Table 3
COATING VOLUME LIMITS FOR PHOTOVOLTAIC COATINGS

Air District*	Daily Volume Limit (Gallons)	Effective Date
Antelope Valley AQMD	27	7/1/2020 to 12/31/2027
Eastern Kern APCD	27	7/1/2020 to 12/31/2027
Imperial County APCD	27	7/1/2020 to 12/31/2027
Mojave Desert AQMD	27	7/1/2020 to 12/31/2027
Monterey Bay ARD	27	7/1/2020 to 12/31/2027
Sacramento Metropolitan AQMD	12.5	7/1/2020 to 12/31/2027
San Joaquin Valley APCD**	100**	7/1/2020 to 12/31/2027
San Luis Obispo County APCD	27	7/1/2020 to 12/31/2027
Santa Barbara County APCD	27	7/1/2020 to 12/31/2027

*Any air district not listed may incorporate the limits for Photovoltaic Coatings, provided the air district completes its own economic and environmental analyses.

** An additional annual volume limit of 3,900 gallons per year is applicable in the San Joaquin Valley APCD.